

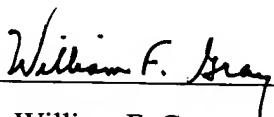
claim 1. New claims 21 and 22 replace original claim 2. New claims 23-27 claim methods of treatment using a compound of claim 3. No new matter has been added.

Original compound claims 3-8 and 10-12 have been amended as to form, and spelling corrections have been made in claims 3, 4, 5, 6, and 7. The specification and claims 5, 6, and 7 have been amended to correct "R³⁰" to "R²⁹". Process claim 9 has been amended as to form and to recite active process steps.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In view of the above amendments and explanations, this application is deemed to be in condition for allowance, and allowance is accordingly requested.

Respectfully submitted,



William F. Gray

Bayer Corporation

400 Morgan Lane

West Haven, CT 06516-4175

Reg. No. 31018

Phone: (203) 812-2712

Date: 3/12/02

Version with markings to show changes made:In the specification:

The paragraph beginning at page 21, line 20 has been amended as follows:

X is straight-chain or branched alkylene having up to 8 carbon atoms or straight-chain or branched alkenediyl having up to 8 carbon atoms which may in each case contain one to three groups from the group consisting of phenyl, phenoxy, O, CO and $[\text{CONR}^{30}]\text{CONR}^{29}$,

The paragraph beginning at page 21, line 27 has been amended as follows:

$[\text{R}^{30}]\text{R}^{29}$ is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

The paragraph beginning at page 25, line 35 has been amended as follows:

X is straight-chain or branched alkylene having up to 6 carbon atoms or straight-chain or branched alkenediyl having up to 6 carbon atoms which may each contain one to three groups from the group consisting of phenoxy, CO and $[\text{CONR}^{30}]\text{CONR}^{29}$,

The paragraph beginning at page 26, line 5 has been amended as follows:

$[\text{R}^{30}]\text{R}^{29}$ is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

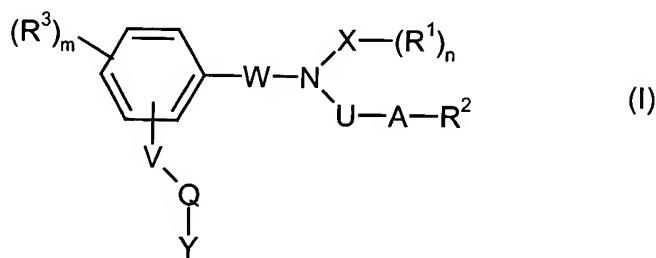
In the claims:

Claims 1, 2, and 14-18 have been canceled, but are shown in the list below for the convenience of the examiner.

Claims 3-13 have been amended as shown below:

New claims 19-27 are shown in the list below for the convenience of the examiner.

1. (Cancelled) Use of compounds which are also capable of stimulating soluble guanylate cyclase independently of the haem group in the enzyme, for preparing medicaments for the treatment of cardiovascular disorders, such as angina pectoris, ischaemia and cardiac insufficiency.
2. (Cancelled) Use of compounds which are also capable of stimulating soluble guanylate cyclase independently of the haem group in the enzyme, for preparing medicaments for the treatment of arteriosclerosis, hypertension, thromboembolic disorders, venous disorders and fibrotic disorders, such as, in particular, hepatic fibrosis.
3. (Amended) **Compounds** A compound of the general formula (I)



in which

V is absent, O, NR⁴, NR⁴CONR⁴, NR⁴CO, NR⁴SO₂, COO, CONR⁴ or S(O)_o,

in which

R^4 , independently of any other radical R^4 which may be present, is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, cycloalkyl having 3 to 8 carbon atoms, aryl having 6 to 10 carbon atoms or arylalkyl having 7 to 18 carbon atoms, where the aryl radical for its part may be mono- or polysubstituted by halogen, alkyl, or alkoxy having up to 6 carbon atoms,

o is 0, 1 or 2,

Q is absent, straight-chain or branched alkylene, straight-chain or branched alkenediyl or straight-chain or branched [alkenediyl] alkynediyl, having in each case up to 12 carbon atoms, which may in each case contain one or more groups selected from the group consisting of O , $S(O)_p$, NR^5 , CO , NR^5SO_2 [or] and $CONR^5$ and which may be mono- or polysubstituted by halogen, hydroxyl or alkoxy having up to 4 carbon atoms, where optionally any two atoms of the abovementioned chain may be attached to one another forming a three- to eight-membered ring,

in which

R^5 is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms, which may be substituted by halogen or alkoxy having up to 4 carbon atoms, and

p is 0, 1 or 2,

Y is hydrogen, NR^8R^9 , aryl having 6 to 10 carbon atoms, an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or straight-chain or branched cycloalkyl having 3 to 8 carbon atoms, which may also be attached via N,

[where] wherein the cyclic radicals may in each case be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkenyl, straight-chain or branched [alkinyl] alkynyl, straight-chain or branched alkoxy, straight-chain or branched halogenoalkyl, straight-chain or branched halogenoalkoxy having in each case up to 8 carbon atoms, straight-chain or branched cycloalkyl having 3 to 8 carbon atoms, halogen, hydroxyl, CN, SR^6 , NO_2 , NR^8R^9 , NR^7COR^{10} , $NR^7CONR^7R^{10}$ or $CONR^{11}R^{12}$,

in which

R^6 is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, straight-chain or branched halogenoalkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R^7 independently of any other radical R^7 which may be present is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R^8 , R^9 , R^{11} and R^{12} independently of one another are hydrogen, straight-chain or branched alkyl, straight-chain or branched alkenyl having up to 8 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, arylalkyl having 8 to 18 carbon atoms, cycloalkyl having 3 to 8 carbon atoms or a radical of the formula SO_2R^{13} ,

[where] wherein the aryl radical for its part may be mono- or polysubstituted by halogen, hydroxyl, CN, NO₂, NH₂, NHCOR⁷, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms, or two substituents R⁸ and R⁹ or R¹¹ and R¹² may be attached to one another forming a five- or six-membered ring which may contain O or N,

[in which,]

and wherein

R¹³ is straight-chain or branched alkyl having up to 4 carbon atoms or aryl having 6 to 10 carbon atoms,

where the aryl radical for its part may be mono- or polysubstituted by halogen, CN, NO₂, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms,

R¹⁰ is hydrogen, straight-chain or branched alkyl having up to 12 carbon atoms, straight-chain or branched alkenyl having up to 12 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or cycloalkyl having 3 to 8 carbon atoms, which may furthermore optionally be substituted by halogen, hydroxyl, CN, NO₂, NH₂, NHCOR⁷, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms;

and/or the cyclic radicals in Y may in each case be mono- to trisubstituted by aryl having 6 to 10 carbon atoms, or by an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, which may also be attached via N, which may be attached directly or via a group O, S, SO, SO₂, NR⁷, SO₂NR⁷, CONR⁷, straight-chain or branched

alkylene, straight-chain or branched alkenediyl, straight-chain or branched alkyloxy, straight-chain or branched oxyalkyloxy, straight-chain or branched sulphonylalkyl, straight-chain or branched thioalkyl having in each case up to 8 carbon atoms and which may be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl, straight-chain or branched halogenoalkoxy, carbonylalkyl or straight-chain or branched alkenyl having in each case up to 6 carbon atoms, halogen, SR⁶, CN, NO₂, NR⁸R⁹, CONR¹⁵R¹⁶ or NR¹⁴COR¹⁷,

in which

R¹⁴ is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R¹⁵, R¹⁶ independently of one another are hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, cycloalkyl having 3 to 8 carbon atoms, aryl having 6 to 10 carbon atoms or a radical of the formula SO₂R¹⁸, where the aryl radical for its part may be mono- or polysubstituted by halogen, hydroxyl, CN, NO₂, NH₂, NHCOR⁷, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms,
in which

R¹⁸ is straight-chain or branched alkyl having up to 4 carbon atoms or aryl having 6 to 10 carbon atoms,
where the aryl radical for its part may be mono- or polysubstituted by halogen, hydroxyl, CN, NO₂, NH₂, NHCOR⁷, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms,

and

R^{17} is hydrogen, straight-chain or branched alkyl having up to 12 carbon atoms, straight-chain or branched alkenyl having up to 12 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or cycloalkyl having 3 to 8 carbon atoms, which may furthermore optionally be substituted by halogen, hydroxyl, CN, NO₂, NH₂, NHCOR⁷, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms;

and/or the cyclic radicals in Y may be fused with an aromatic or saturated carbocycle having 1 to 10 carbon atoms or an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O,

R^3 is hydrogen, halogen, straight-chain or branched alkyl, straight-chain or branched halogenoalkyl, straight-chain or branched alkoxy, or alkoxycarbonyl having in each case up to 4 carbon atoms, or CN, NO₂ or NR¹⁹R²⁰,

in which

R^{19} and R^{20} independently of one another are hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

m is an integer from 1 to 4,

W is straight-chain or branched alkylene having up to 6 carbon atoms or straight-chain or branched alkenediyl having up to 6 carbon atoms, which may in each case contain a group selected from the group consisting of O, S(O)_q, NR²¹, CO and CONR²¹, or is CO, NHCO or OCO,

in which

q is 0, 1 or 2,

R²¹ is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

U is straight-chain or branched alkyl having up to 4 carbon atoms,

A is aryl having 6 to 10 carbon atoms or an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O,

which may optionally be mono- to trisubstituted by halogen, straight-chain or branched alkyl, straight-chain or branched halogenoalkyl, straight-chain or branched alkoxy, halogenoalkoxy or alkoxy carbonyl having up to 4 carbon atoms, CN, NO₂ or NR²²R²³,

in which

R²² and R²³ independently of one another are each hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms, carbonylalkyl or sulphonylalkyl,

R² is tetrazolyl, COOR²⁴ or CONR²⁵R²⁶,

in which

R^{24} is hydrogen, alkyl having 1 to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R^{25} and R^{26} independently of one another are each hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, cycloalkyl having 3 to 8 carbon atoms or a radical of the formula SO_2R^{27} , or R^{25} and R^{26} together form a five- or six-membered ring which may contain N or O,

in which

R^{27} is straight-chain or branched alkyl having up to 4 carbon atoms or aryl having 6 to 10 carbon atoms, where the aryl radical for its part may be mono- or polysubstituted by halogen, CN, NO_2 , alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms,

X is straight-chain or branched alkylene having up to 12 carbon atoms or straight-chain or branched alkenediyl having up to 12 carbon atoms which may in each case contain one to three groups selected from the group consisting of O, $S(O)_r$, NR^{28} , CO [or] and $CONR^{29}$, or is aryl or aryloxy having 6 to 10 carbon atoms, where the aryl radical for its part may be mono- or polysubstituted by halogen, CN, NO_2 , alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms, where optionally any two atoms of the abovementioned chains are attached to one another via an alkyl chain, forming a three- to eight-membered ring,

in which

r is 0, 1 or 2,

R²⁸ is hydrogen, alkyl having 1 to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R²⁹ is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

n is 1 or 2; and

R¹ is tetrazolyl, COOR³⁰ or CONR³¹R³²,

in which

R³⁰ is hydrogen, alkyl having 1 to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R³¹ and R³² independently of one another are each hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, cycloalkyl having 3 to 8 carbon atoms or a radical of the formula SO₂R³³,

in which

R³³ is straight-chain or branched alkyl having up to 4 carbon atoms or aryl having 6 to 10 carbon atoms,

where the aryl radical for its part may be mono- or polysubstituted by halogen, CN, NO₂, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms,

and its stereoisomers and salts.

4. (Amended) [Compounds] A compound according to Claim 3,

in which

V is absent, O, NR⁴, NR⁴CONR⁴, NR⁴CO, NR⁴SO₂, COO, CONR⁴ or S(O)_o,

in which

R⁴ independently of any other radical R⁴ which may be present, is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, cycloalkyl having 3 to 8 carbon atoms, aryl having 6 to 10 carbon atoms or arylalkyl having 7 to 18 carbon atoms, where the aryl radical for its part may be mono- or polysubstituted by halogen, alkyl, alkoxy having up to 6 carbon atoms,

o is 0, 1 or 2,

Q is absent, straight-chain or branched alkylene, straight-chain or branched alkenediyl or straight-chain or branched [alkinediyl] alkynediyl having in each case up to 12 carbon atoms, which may in each case contain one or more groups selected from the group consisting of O, S(O)_p, NR⁵, CO, NR⁵SO₂ [or] and

CONR⁵ and which may be mono- or polysubstituted by halogen, hydroxyl or alkoxy having up to 4 carbon atoms, where optionally any two atoms of the abovementioned chain may be attached to one another forming a three- to eight-membered ring,

in which

R⁵ is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms, which may be substituted by halogen or alkoxy having up to 4 carbon atoms, and

p is 0, 1 or 2,

Y is hydrogen, NR⁸R⁹, aryl having 6 to 10 carbon atoms, an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or straight-chain or branched cycloalkyl having 3 to 8 carbon atoms, which may also be attached via N,

[where] wherein the cyclic radicals may in each case be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkenyl, straight-chain or branched [alkinyl] alkynyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl, straight-chain or branched halogenoalkoxy having in each case up to 8 carbon atoms, straight-chain or branched cycloalkyl having 3 to 8 carbon atoms, halogen, hydroxyl, CN, SR⁶, NO₂, NR⁸R⁹, NR⁷COR¹⁰, NR⁷CONR⁷R¹⁰ or CONR¹¹R¹²,

in which

R^6 is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, straight-chain or branched halogenoalkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R^7 independently of any other radical R^7 which may be present is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R^8 , R^9 , R^{11} and R^{12} independently of one another are hydrogen, straight-chain or branched alkyl, straight-chain or branched alkenyl having up to 8 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, arylalkyl having 8 to 18 carbon atoms, cycloalkyl having 3 to 8 carbon atoms or a radical of the formula SO_2R^{13} ,

[where] wherein the alkyl radical for its part may be mono- or polysubstituted by halogen, hydroxyl, CN, NO_2 , NH_2 , $NHCOR^7$, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms, or two substituents R^8 and R^9 or R^{11} and R^{12} may be attached to one another forming a five- or six-membered ring which may contain O or N,

[in which,] and wherein

R^{13} is straight-chain or branched alkyl having up to 4 carbon atoms or aryl having 6 to 10 carbon atoms, where the aryl radical for its part may be mono- or polysubstituted by halogen, CN, NO_2 , alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms,

R^{10} is hydrogen, straight-chain or branched alkyl having up to 12 carbon atoms, straight-chain or branched alkenyl having up to 12 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or cycloalkyl having 3 to 8 carbon atoms, which may furthermore optionally be substituted by halogen, hydroxyl, CN, NO₂, NH₂, NHCOR⁷, alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms;

and/or the cyclic radicals in Y may in each case be mono- to trisubstituted by aryl having 6 to 10 carbon atoms, or by an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, which may also be attached via N, which may be attached directly or via a group O, S, SO, SO₂, NR⁷, SO₂NR⁷, CONR⁷, straight-chain or branched alkylene, straight-chain or branched alkenediyl, straight-chain or branched alkyloxy, straight-chain or branched oxyalkyloxy, straight-chain or branched sulphonylalkyl, straight-chain or branched thioalkyl having in each case up to 8 carbon atoms and which may be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl, straight-chain or branched halogenoalkoxy, carbonylalkyl or straight-chain or branched alkenyl having in each case up to 6 carbon atoms, halogen, SR⁶, CN, NO₂, NR⁸R⁹, CONR¹⁵R¹⁶ or NR¹⁴COR¹⁷,

in which

R^{14} is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms or cycloalkyl having 3 to 8 carbon atoms,

R^{15}, R^{16} independently of one another are hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, cycloalkyl having 3 to 8 carbon atoms or a radical of the formula SO_2R^{18} ,

in which

R^{18} is straight-chain or branched alkyl having up to 4 carbon atoms or aryl having 6 to 10 carbon atoms, where the aryl radical for its part may be mono- or polysubstituted by halogen, CN, NO_2 , alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms,

and

R^{17} is hydrogen, straight-chain or branched alkyl having up to 12 carbon atoms, straight-chain or branched alkenyl having up to 12 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or cycloalkyl having 3 to 8 carbon atoms, which may furthermore optionally be substituted by halogen, CN, NO_2 , alkyl, alkoxy, halogenoalkyl or halogenoalkoxy having up to 6 carbon atoms;

and/or the cyclic radicals in Y may be fused with an aromatic or saturated carbocycle having 1 to 10 carbon atoms or an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O,

R³ is hydrogen, halogen, straight-chain or branched alkyl, straight-chain or branched halogenoalkyl or straight-chain or branched alkoxy having in each case up to 4 carbon atoms,

m is an integer from 1 to 4,

W is straight-chain or branched alkylene or straight-chain or branched alkenediyl having in each case up to 4 carbon atoms,

U is -CH₂-,

A is phenyl or an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, which may optionally be mono- to trisubstituted by halogen, straight-chain or branched alkyl, straight-chain or branched halogenoalkyl or straight-chain or branched alkoxy having up to 4 carbon atoms,

R² is COOR²⁴,

in which

R²⁴ is hydrogen or straight-chain or branched alkyl having up to 6 carbon atoms,

X is straight-chain or branched alkylene having up to 8 carbon atoms or straight-chain or branched alkenediyl having up to 8 carbon atoms which may in each case contain one to three groups selected from the group consisting of phenyl, phenoxy, O, CO and CONR²⁹,

in which

R^{29} is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

n is 1 or 2, and

R^1 is $COOR^{30}$,

in which

R^{30} is hydrogen or straight-chain or branched alkyl having up to 6 carbon atoms.

5. (Amended) [Compounds] A compound according to Claim 3,

in which

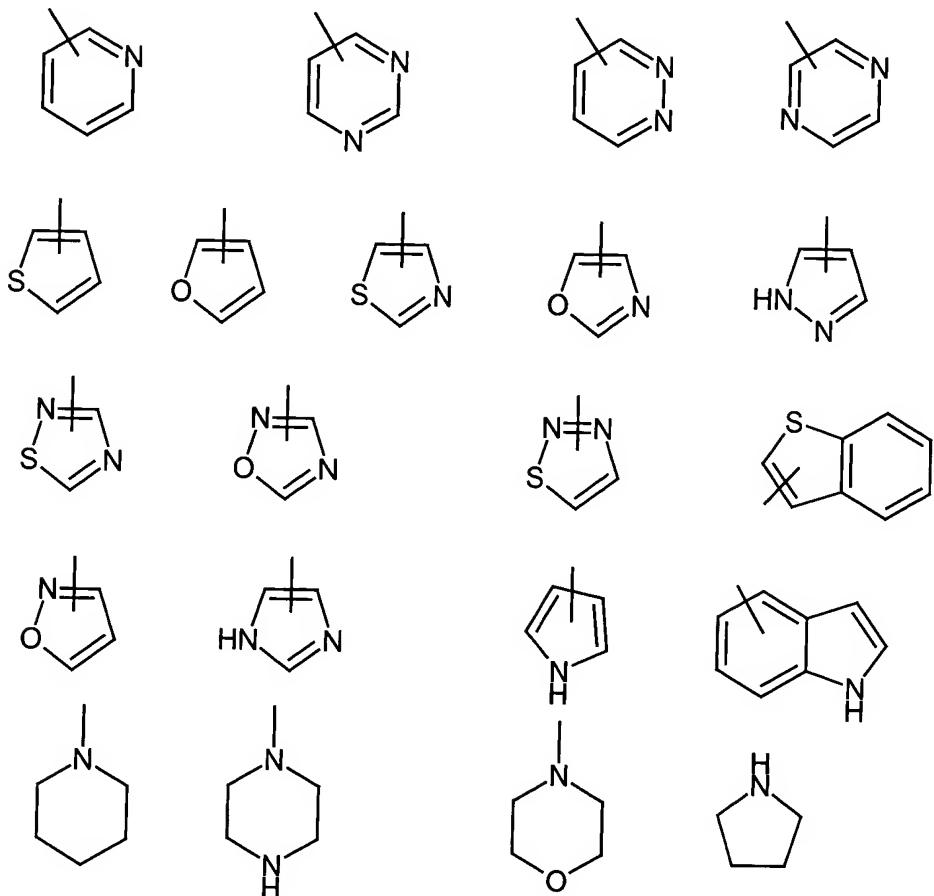
V is absent, O, S or NR^4 ,

in which

R^4 is hydrogen or methyl,

Q is absent, straight-chain or branched alkylene having up to 9 carbon atoms or straight-chain or branched alkenediyl or straight-chain or branched [alkinediyl] alkynediyl having up to 4 carbon atoms which may be monosubstituted by halogen,

Y is H, NR^8R^9 , cyclohexyl, phenyl, naphtyl or a heterocycle selected from the group consisting of



which may also be attached via N,

[where] wherein the cyclic radicals may in each case be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkenyl, straight-chain or branched [alkynyl] alkynyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl, straight-chain or branched halogenoalkoxy having in each case up to 4 carbon

atoms, straight-chain or branched cycloalkyl having 3 to 6 carbon atoms, F, Cl, Br, I, NO₂, SR⁶, NR⁸R⁹, NR⁷COR¹⁰ or CONR¹¹R¹²,
in which

R⁶ is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, or straight-chain or branched halogenoalkyl having up to 4 carbon atoms,

R⁷ is hydrogen, or straight-chain or branched alkyl having up to 4 carbon atoms,

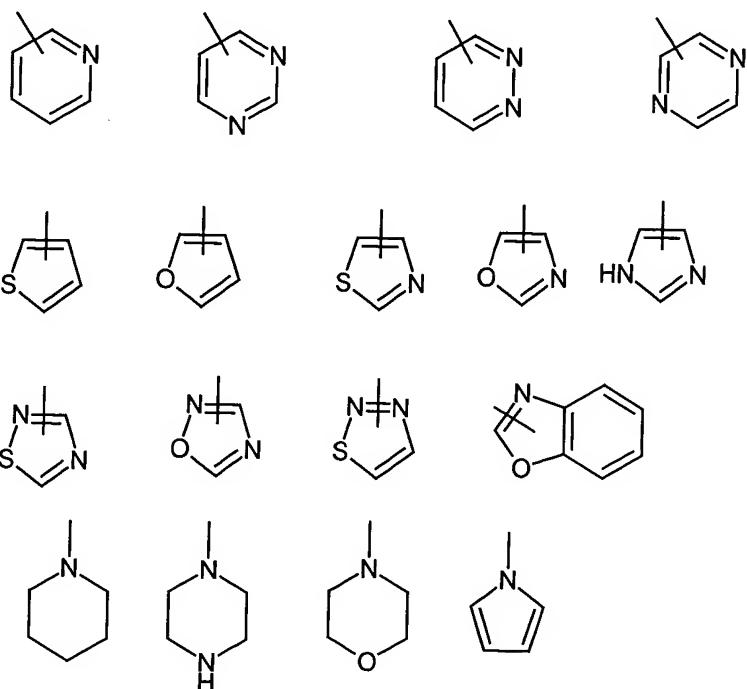
R⁸, R⁹, R¹¹ and R¹² independently of one another are hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or phenyl,

[where] wherein the phenyl radical may be mono- to trisubstituted by F, Cl Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetylamino, NO₂, CF₃, OCF₃ or CN, or two substituents R⁸ and R⁹ or R¹¹ and R¹² may be attached to one another forming a five- or six-membered ring which may be interrupted by O or N,

R¹⁰ is hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or phenyl,

where the phenyl radical may be mono- to trisubstituted by F, Cl Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetylamino, NO₂, CF₃, OCF₃ or CN;

and/or the cyclic radicals in Y may in each case be mono- to trisubstituted by phenyl or a heterocycle selected from the group consisting of



which may be attached directly or via a group O, S, SO, SO₂, NR⁴, SO₂NR⁷, CONR⁷, straight-chain or branched alkylene, straight-chain or branched alkenediyl, straight-chain or branched alkyloxy, straight-chain or branched oxyalkyloxy, straight-chain or branched sulphonylalkyl, straight-chain or branched thioalkyl having in each case 4 carbon atoms and which may be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl or straight-chain or branched alkenyl having in each case up to 4 carbon atoms, F, Cl, Br, I, CN, SCH₃, OCF₃, NO₂, NR⁸R⁹ or NR¹⁴COR¹⁷,

in which

R¹⁴ is hydrogen, straight-chain or branched alkyl having up to 8 carbon atoms, or cycloalkyl having 3 to 8 carbon atoms,

and

R^{17} is hydrogen, straight-chain or branched alkyl having up to 12 carbon atoms, straight-chain or branched alkenyl having up to 12 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or cycloalkyl having 3 to 8 carbon atoms, which may furthermore optionally be substituted by F, Cl Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetylamino, NO_2 , CF_3 , OCF_3 or CN ;

and/or the cyclic radicals in Y may be fused with an aromatic or saturated carbocycle having 1 to 10 carbon atoms or an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O,

R^3 is hydrogen or fluorine,

m is an integer from 1 to 2,

W is CH_2 , $-CH_2CH_2-$, $CH_2CH_2CH_2$, or $CH=CHCH_2$,

U is $-CH_2-$,

A is phenyl, pyridyl, thienyl or thiazolyl which may optionally be mono- to trisubstituted by methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, s-butyl, t-butyl, CF_3 , methoxy, ethoxy, F, Cl, Br,

R^2 is $COOR^{24}$,

in which

R^{24} is hydrogen or straight-chain or branched alkyl having up to 4 carbon atoms,

X is straight-chain or branched alkylene having up to 8 carbon atoms or straight-chain or branched alkenediyl having up to 8 carbon atoms which may in each case contain one to three groups selected from the group consisting of phenyl, phenoxy, O, CO and $[\text{CONR}^{30},] \text{CONR}^{29}$

in which

$[\text{R}^{30}] \text{R}^{29}$ is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

n is 1 or 2, and

R^1 is COOR^{35} ,

in which

R^{35} is hydrogen or straight-chain or branched alkyl having up to 6 carbon atoms.

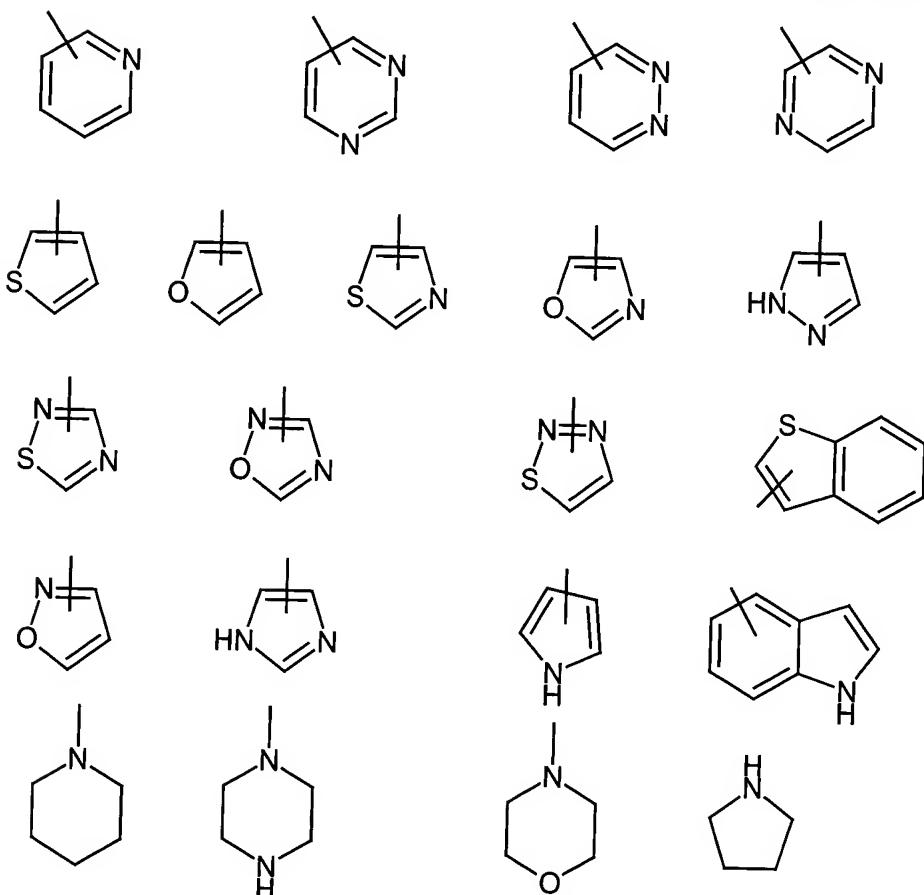
6. (Amended) $[\text{Compounds}]$ A compound according to Claim 3,

in which

V is O,

Q is straight-chain or branched alkylene having up to 9 carbon atoms or straight-chain or branched alkenediyi or straight-chain or branched [alkinediyi] alkynediyi having up to 4 carbon atoms which may be monosubstituted by halogen,

Y is H, cyclohexyl, phenyl or a heterocycle selected from the group consisting of



[where] wherein the cyclic radicals may in each case be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkenyl, straight-chain

or branched [alkinyl] alkynyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl, straight-chain or branched halogenoalkoxy having in each case up to 4 carbon atoms, straight-chain or branched cycloalkyl having 3 to 6 carbon atoms, F, Cl, Br, I, NO₂, SR⁶, NR⁸R⁹, NR⁷COR¹⁰ or CONR¹¹R¹²,

in which

R⁶ is hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or straight-chain or branched halogenoalkyl having up to 4 carbon atoms,

R⁷ is hydrogen, or straight-chain or branched alkyl having up to 4 carbon atoms,

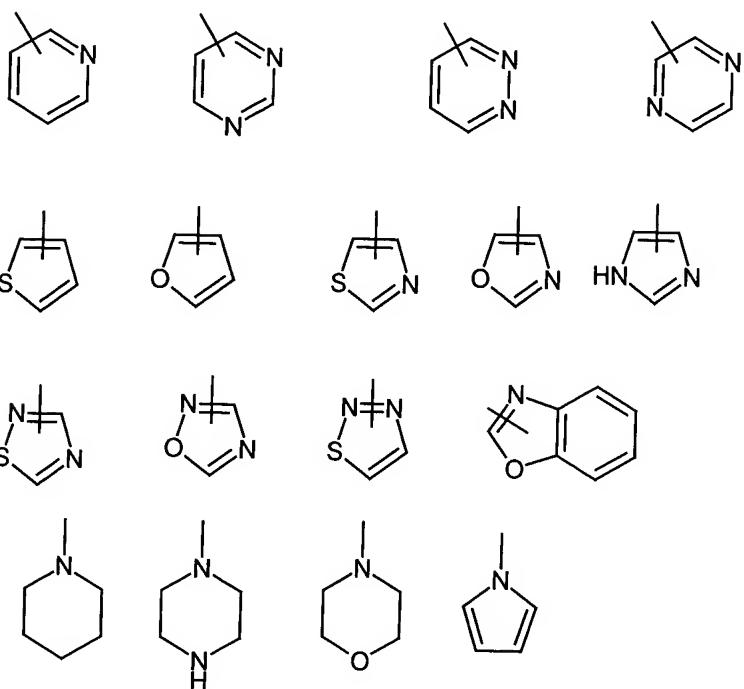
R⁸, R⁹, R¹¹ and R¹² independently of one another are hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or phenyl,

[where] wherein the phenyl radical may be mono- to trisubstituted by F, Cl Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetylamino, NO₂, CF₃, OCF₃ or CN, or two substituents R⁸ and R⁹ or R¹¹ and R¹² may be attached to one another forming a five- or six-membered ring which may be interrupted by O or N,

R¹⁰ is hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or phenyl,

where the phenyl radical may be mono- to trisubstituted by F, Cl Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetylamino, NO₂, CF₃, OCF₃ or CN;

and/or the cyclic radicals in Y may in each case be mono- to trisubstituted by phenyl or a heterocycle selected from the group consisting of



which may be attached directly or via a group O, S, SO, SO₂, straight-chain or branched alkylene, straight-chain or branched alkenediyil, straight-chain or branched alkyloxy, straight-chain or branched oxyalkyloxy, straight-chain or branched sulphonylalkyl, straight-chain or branched thioalkyl having in each case up to 4 carbon atoms and which may be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl or straight-chain or branched alkenyl having in each case up to 4 carbon atoms, F, Cl, Br, I, CN, SCH₃, OCF₃, NO₂, NR⁸R⁹ or NR¹⁴COR¹⁷,

in which

R^{14} is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

and

R^{17} is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms, straight-chain or branched alkenyl having up to 6 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O, or cycloalkyl having 3 to 6 carbon atoms, which may furthermore optionally be substituted by F, Cl, Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetylamino, NO_2 , CF_3 , OCF_3 or CN ;

and/or the cyclic radicals in Y may be fused with an aromatic or saturated carbocycle having 1 to 10 carbon atoms or an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O,

R^3 is hydrogen or fluorine,

m is an integer from 1 to 2,

W is $-CH_2-$ or $-CH_2CH_2-$,

U is $-CH_2-$,

A is phenyl which may optionally be mono- to trisubstituted by methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, s-butyl, t-butyl, CF_3 , methoxy, ethoxy, F, Cl, Br,

R^2 is $COOR^{24}$,

in which

R^{24} is hydrogen or straight-chain or branched alkyl having up to 4 carbon atoms,

X is straight-chain or branched alkylene having up to 6 carbon atoms or straight-chain or branched alkenediyl having up to 6 carbon atoms, which may each contain one to three groups selected from the group consisting of phenoxy, O, CO and $[CONR^{30},]\underline{CONR^{29}}$,

in which

$[R^{30}]R^{29}$ is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

n is 1 or 2, and

R^1 is $COOR^{35}$,

in which

R^{35} is hydrogen or straight-chain or branched alkyl having up to 4 carbon atoms.

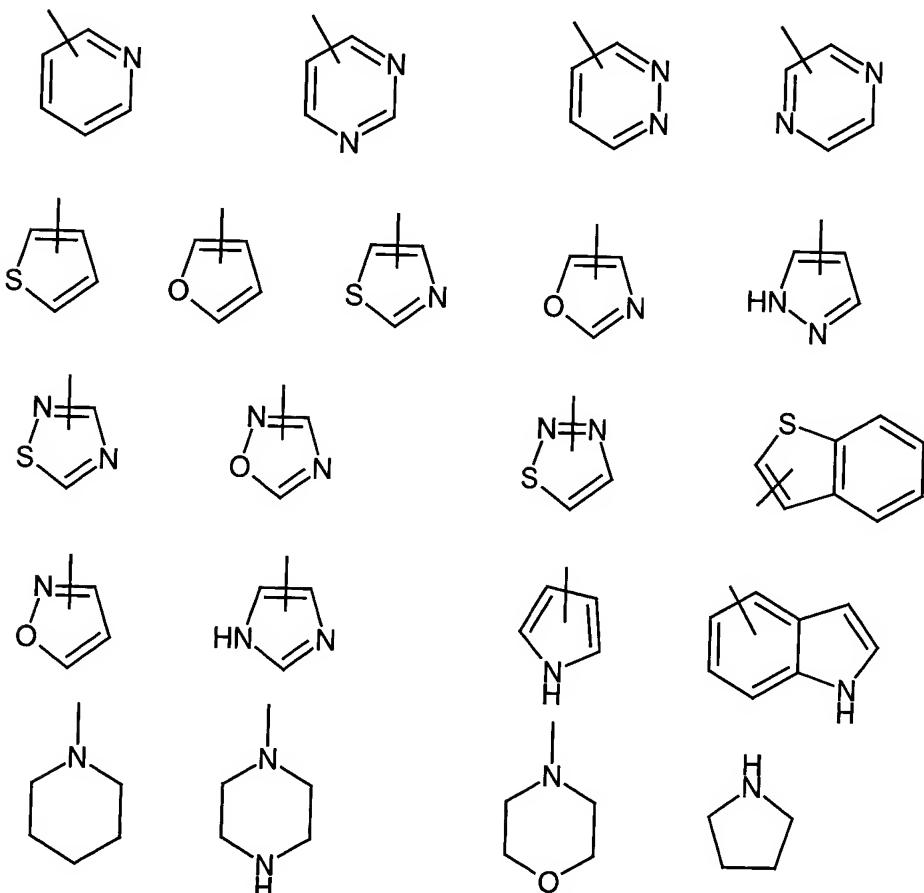
7. (Amended) $[Compounds]$ A compound according to Claim 3,

in which

V is O,

Q is straight-chain or branched alkylene having up to 9 carbon atoms or straight-chain or branched alkenediyl or straight-chain or branched **[alkinediyl]** alkynediyl having up to 4 carbon atoms which may be monosubstituted by halogen,

Y is H, cyclohexyl, phenyl or a heterocycle selected from the group consisting of



[where] wherein the cyclic radicals may in each case be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkenyl, straight-chain or branched [alkinyl] alkynyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl, straight-chain or branched halogenoalkoxy, having in each case up to 4 carbon atoms, straight-chain or branched cycloalkyl having 3 to 6 carbon atoms, F, Cl, Br, I, NO₂, SR⁶, NR⁸R⁹, NR⁷COR¹⁰ or CONR¹¹R¹²,

in which

R⁶ is hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or straight-chain or branched halogenoalkyl having up to 4 carbon atoms,

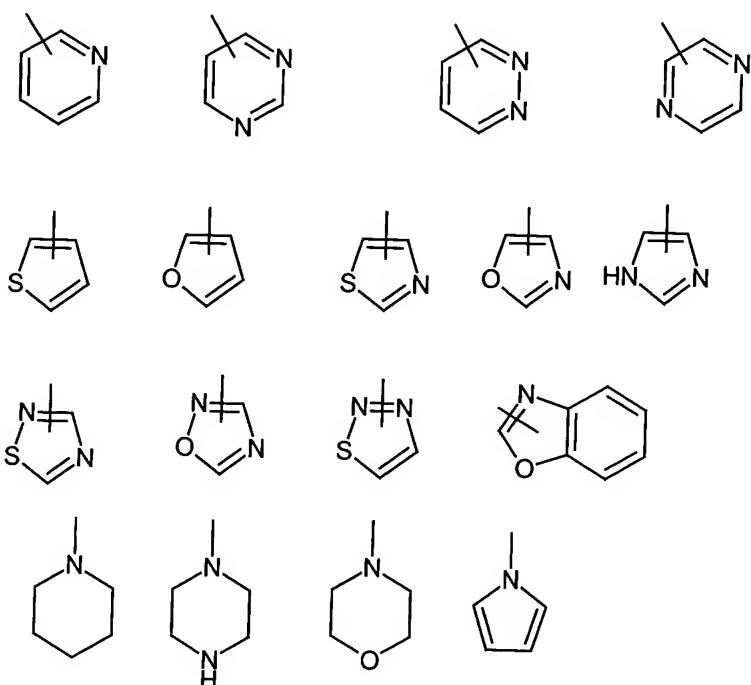
R⁷ is hydrogen or straight-chain or branched alkyl having up to 4 carbon atoms,

R⁸, R⁹, R¹¹ and R¹² independently of one another are hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or phenyl, where the phenyl radical may be mono- to trisubstituted by F, Cl, Br, hydroxyl, methyl, ethyl, n- propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetyl amino, NO₂, CF₃, OCF₃ or CN, or two substituents R⁸ and R⁹ or R¹¹ and R¹² may be attached to one another forming a five- or six-membered ring which may be interrupted by O or N,

R¹⁰ is hydrogen, straight-chain or branched alkyl having up to 4 carbon atoms or phenyl,

where the phenyl radical may be mono- to trisubstituted by F, Cl, Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetyl amino, NO₂, CF₃, OCF₃ or CN;

and/or the cyclic radicals in Y may in each case be mono- to trisubstituted by phenyl or a heterocycle selected from the group consisting of



which may be attached directly or via a group O, S, SO, SO₂, straight-chain or branched alkylene, straight-chain or branched alkenediyl, straight-chain or branched alkyloxy, straight-chain or branched oxyalkyloxy, straight-chain or branched sulphonylalkyl, straight-chain or branched thioalkyl having in each case up to 4 carbon atoms and which may be mono- to trisubstituted by straight-chain or branched alkyl, straight-chain or branched alkoxy, straight-chain or branched alkoxyalkoxy, straight-chain or branched halogenoalkyl or straight-chain or

branched alkenyl having in each case up to 4 carbon atoms, F, Cl, Br, I, CN, SCH₃, OCF₃, NO₂, NR⁸R⁹ or NR¹⁴COR¹⁷,

in which

R¹⁴ is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

and

R¹⁷ is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms, straight-chain or branched alkenyl having up to 6 carbon atoms, aryl having 6 to 10 carbon atoms, an aromatic heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms selected from the group consisting of S, N and O or cycloalkyl having 3 to 6 carbon atoms, which may furthermore optionally be substituted by F, Cl Br, hydroxyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, methoxy, ethoxy, amino, acetylamino, NO₂, CF₃, OCF₃ or CN;

and/or the cyclic radicals in Y may be fused with an aromatic or saturated carbocycle having 1 to 10 carbon atoms or an aromatic or saturated heterocycle having 1 to 9 carbon atoms and up to 3 heteroatoms from the group consisting of S, N and O,

R³ is hydrogen or fluorine,

m is an integer from 1 to 2,

W is -CH₂- or -CH₂CH₂-,

U is -CH₂-,

A is phenyl which may optionally be mono- to trisubstituted by methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, s-butyl, t-butyl, CF₃, methoxy, ethoxy, F, Cl, or Br,

R² is COOH,

X is straight-chain or branched alkylene having up to 6 carbon atoms or straight-chain or branched alkenediyl having up to 6 carbon atoms which may in each case contain one to three groups selected from the group consisting of phenoxy, O, CO and [CONR³⁰,] CONR²⁹

in which

[R³⁰] R²⁹ is hydrogen, straight-chain or branched alkyl having up to 6 carbon atoms or cycloalkyl having 3 to 6 carbon atoms,

n is 1 or 2, and

R¹ is COOH.

8. (Amended) [Compounds] A compound according to Claim 3,

in which

V is O,

Q is CH_2 ,

Y is phenyl which is substituted by a radical selected from the group consisting of 2-phenylethyl, cyclohexyl, 4-chlorophenyl, 4-methoxyphenyl, 4-trifluoromethylphenyl, 4-cyanophenyl, 4-chlorophenoxy, 4-methoxyphenoxy, 4-trifluoromethylphenoxy, 4-cyanophenoxy, and 4-methylphenyl,

R^3 is hydrogen or fluorine,

m is an integer from 1 to 2,

W -is CH_2CH_2 -,

U is - CH_2 -,

A is phenyl,

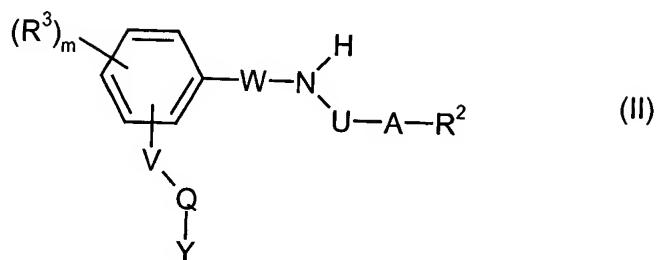
R^2 is COOH, where R_2 is located in the 4-position relative to the radical U,

X is $(\text{CH}_2)_4$, and

R^1 is COOH.

9. (Amended) [Process] A process for preparing compounds of the general formula (I),
[characterized in that] comprising:

[[A]](a) reacting compounds of the formula (II)



[are reacted] with compounds of the formula (III)



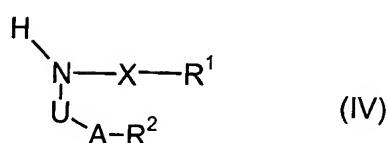
in which

R¹, R², R³, V, Q, Y, W, X, U, A and m are as defined in Claim 3, and

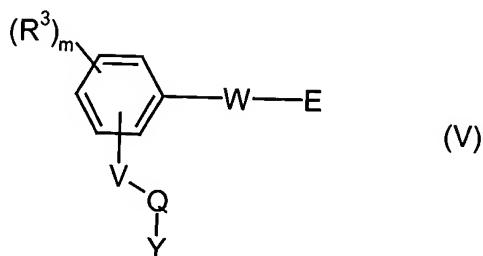
E is either a leaving group which is substituted in the presence of a base or is an optionally activated hydroxyl function;

or

[[B]](b) reacting compounds of the formula (IV)



【are reacted】 with compounds of the formula (V)



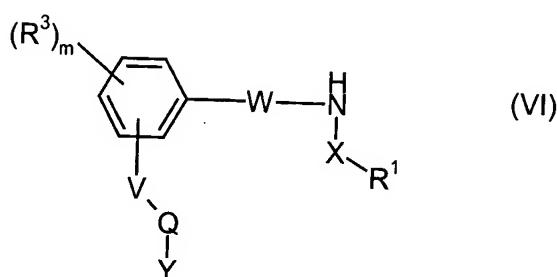
in which

$R^1, R^2, R^3, V, Q, Y, W, X, U, A$ and m are as defined in Claim 3, and

E is either a leaving group which is substituted in the presence of a base or is an optionally activated hydroxyl function;

or

【C】(c) reacting compounds of the formula (VI)



【are reacted】 with compounds of the formula (VII)

E-U-A-R² (VII)

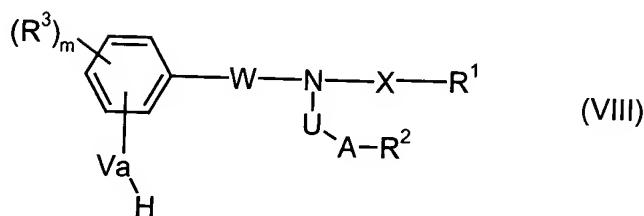
in which

R¹, R², R³, V, Q, Y, W, X, U, A and m are as defined in Claim 3, and

E is either a leaving group which is substituted in the presence of a base or is an optionally activated hydroxyl function;

or

[[D]](d) reacting compounds of the formula (VIII),



in which

Va is O or S and

W, A, X, U, R¹, R², R³ and m are as defined in Claim 3,

[[are reacted]] with compounds of the formula (IX)

E-Q-Y (IX)

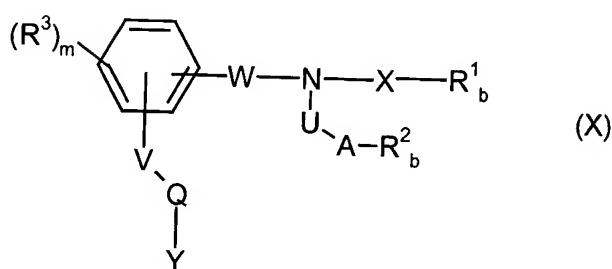
in which

Q, Y are as defined in Claim 3, and

E is either a leaving group which is substituted in the presence of a base or is an optionally activated hydroxyl function;

or

[[E]](e) reacting compounds of the formula (X)



in which

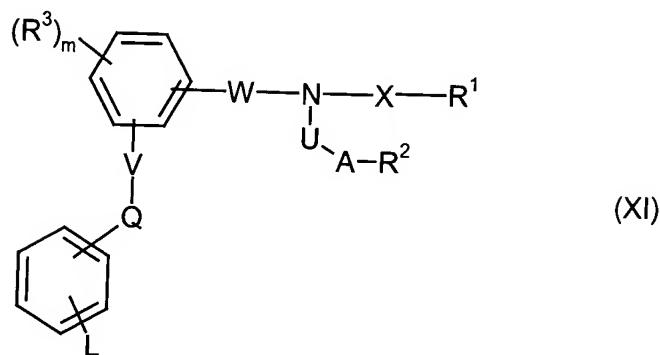
R^3 , V , Q , Y , W , X , U , A and m are as defined in Claim 3,

R^{1b} and R^{2b} independently each represent CN or $COOAlk$, where Alk represents a straight-chain or branched alkyl radical having up to 6 carbon atoms,

[are converted] with aqueous solutions of strong acids or strong bases to convert them into the corresponding free carboxylic acids;

or

[[F]](f) reacting compounds of the formula (XI)



in which

R^1 , R^2 , R^3 , V , Q , Y , W , X , U , A and m are as defined in Claim 3,

L represents Br , I or the group CF_3SO_2-O ,

[[are reacted]] with compounds of the formula (XII)

$M-Z$ (XII)

in which

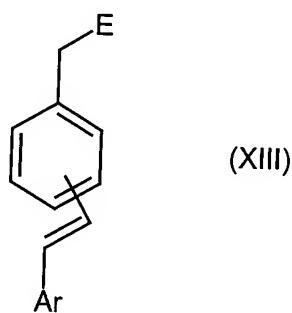
M represents an aryl or heteroaryl radical, a straight-chain or branched alkyl, alkenyl or [[alkinyl]] alkynyl radical or cycloalkyl radical or represents an arylalkyl, an arylalkenyl or an [[arylalkinyl]] arylalkynyl radical, and

Z represents the groupings $-B(OH)_2$, $-CH\equiv CH$, $-CH=CH_2$ or $-Sn(nBu)_3$,

in the presence of a palladium compound, if appropriate additionally in the presence of a reducing agent and further additives and in the presence of a base;

or

$[[G]](g)$ reacting compounds of the formula (XIII)

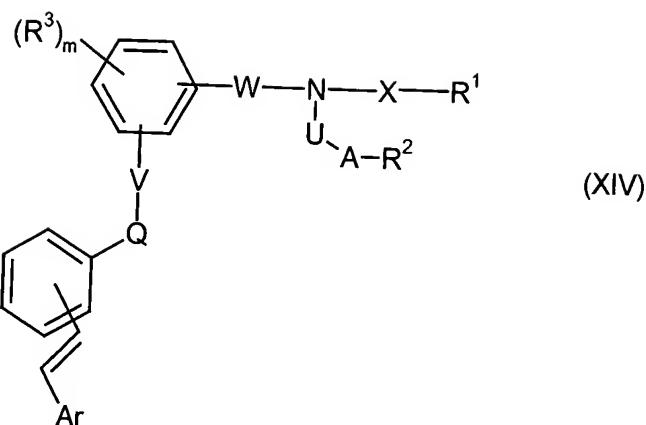


in which

Ar represents an aryl or heteroaryl radical,

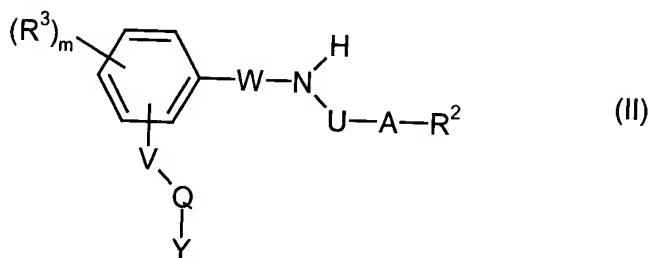
E is a leaving group which is substituted in the presence of a base,

[are reacted] according to process D with compounds of the formula (VIII) and hydrogenating the resulting compounds of the formula (XIV)



〔are hydrogenated〕 with hydrogen in the presence of a catalyst.

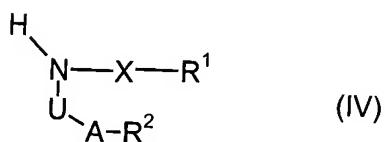
10. (Amended) [Compounds] A compound of the formula (II)



in which

V, Q, Y, R³, m, W, N, U, A and R² are as defined in Claim 3.

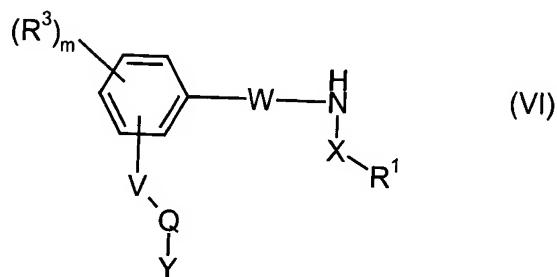
11. (Amended) [Compounds] A compound of the formula (IV)



in which

U, A, X, R¹ and R² are as defined in Claim 3.

12. (Amended) [Compounds] A compound of the formula (VI)



in which

V, Q, Y, R³, m, W, X and R¹ are as defined in Claim 3.

13. (Amended) [Medicaments,] A pharmaceutical composition comprising at least one compound of the general formula (I) according to [any of the preceding claims.] claim 3, and a pharmaceutically acceptable carrier.

14. (Cancelled) Use of compounds of the formula (I) according to any of the preceding claims for preparing a medicament for the treatment of cardiovascular disorders.

15. (Cancelled) Use of compounds of the general formula (I) according to any of the preceding claims for preparing medicaments for the treatment of angina pectoris, ischaemias and cardiac insufficiency.

16. (Cancelled) Use of compounds of the general formula (I) according to any of the preceding claims for preparing medicaments for the treatment of hypertension, thromboembolic disorders, arteriosclerosis and venous disorders.
17. (Cancelled) Use of compounds of the general formula (I) according to any of the preceding claims for preparing medicaments for the treatment of fibrotic disorders.
18. (Cancelled) Use according to Claim 16, characterized in that the fibrotic disorder is hepatic fibrosis.
19. (New, replacing original claim 1) A method of treating a cardiovascular disorder, comprising administering to a mammal an effective amount of a compound which is capable of stimulating soluble guanylate cyclase independently of the haem group in the enzyme.
20. (New, derived from original claim 1) The method of claim 19 wherein said cardiovascular disorder is angina pectoris, ischaemia or cardiac insufficiency.
21. (New, replacing original claim 2) A method of treating arteriosclerosis, hypertension, thromboembolic disorders, venous disorders, or fibrotic disorders, comprising administering to a mammal an effective amount of a compound which is capable of stimulating soluble guanylate cyclase independently of the haem group in the enzyme.
22. (New, derived from original claim 2) The method of claim 21, wherein said fibrotic disorder is hepatic fibrosis.

23. (New, replacing original claim 14) A method of treating a cardiovascular disorder, comprising administering to a mammal an effective amount of a compound of formula (I) according to claim 3.
24. (New, replacing original claim 15) The method of claim 23, wherein said cardiovascular disorder is angina pectoris, ischaemia, or cardiac insufficiency.
25. (New, replacing original claim 16) A method of treating hypertension, thromboembolic disorders, arteriosclerosis, or venous disorders, comprising administering to a mammal an effective amount of a compound of formula (I) according to claim 3.
26. (New, replacing original claim 17) A method of treating a fibrotic disorder, comprising administering to a mammal an effective amount of a compound of formula (I) according to claim 3.
27. (New, replacing original claim 18) The method of claim 26, wherein said fibrotic disorder is hepatic fibrosis.